

REMARKS

Claims 1 and 72 have been amended. Claim 7 has been canceled. Subsequent to the entry of the present amendment, claims 1, 3-6, 8-18 and 72-85 are pending and at issue. These amendments and new claims add no new matter as the claim language is fully supported by the specification and original claims.

I. Rejections Under 35 U.S.C. § 103(a)

A. Claims 1, 3-6, 8-18 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sun. (6780648) in view of Sollbohmer (2002/0051737). Applicants respectfully traverse this rejection.

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation to modify a reference or to combine the teachings of multiple references. Second, there must be a reasonable expectation of success. Third, the prior art must teach or suggest all of the recited claim limitations. Of course, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicant's disclosure.

Applicants have amended claim 1 to include a pressurized air source. In addition, claim 1 has been amended with the limitations of claim 7 (not part of this rejection) to point out that the pressurized fluid delivery subsystem includes a plurality of reagent containers, an air manifold with a port for receiving an air supply line from the pressurized air source, and a plurality of air delivery lines extending from the air manifold, wherein each of the plurality of air delivery lines is connected to a corresponding one of the plurality of reagent containers, each reagent container being configured to receive pressurized air through the air delivery line such that the liquid reagent within the reagent container is subject to substantially constant pressure for dispensing the liquid reagent.

The Office Action at page 4 states that “Sun and Sollbohmer fails to teach air pressurization”. Therefore, Sun in view of Sollbohmer fails to teach or suggest all of the recited claim limitations. Accordingly, Applicants respectfully request withdrawal of this rejection to claims 1, 3-6, 8-18 under 35 U.S.C. § 103(a).

B. Claims 1, 3-18, 72-85 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Sun and Sollbohmer as applied to claims 1-6, 8-18 above, and further in view of Peck et al and/or Krug et al. Applicants respectfully traverse this rejection.

Applicants have amended claims 1 and 72 to include a pressurized air source. In addition, claim 1 has been amended with the limitations of claim 7 to point out that the pressurized fluid delivery subsystem includes a plurality of reagent containers, an air manifold with a port for receiving an air supply line from the pressurized air source, and a plurality of air delivery lines extending from the air manifold, wherein each of the plurality of air delivery lines is connected to a corresponding one of the plurality of reagent containers, each reagent container being configured to receive pressurized air through the air delivery line such that the liquid reagent within the reagent container is subject to substantially constant pressure for dispensing the liquid reagent.

The Office Action correctly points out on page 4 that “Sun and Sollbohmer fails to teach air pressurization”. The Office Action alleges that “Peck et al teaches a dispenser similar to that of Sun, including gas pressure to pump fluids form containers through lines to dispensers (Fig. 2)” and “Krug et al teaches a dispenser similar to that of Sun, including gas pressure to pump fluids form containers through lines to dispensers (Fig. 1).” The Office Action further alleges that it would have been “obvious to one of ordinary skill in the art to use gas pressurization to pump fluid to a dispenser tip in the apparatus of Sun and Sollbohmer in order to provide an alternative method of fluid pumping in a dispensing device as taught by Peck and/or Krug.”

In a prior response Applicants argued that there is no motivation to combine references. Both Sun and Sollbohmer include a pump for moving fluid in the system between the fluid container and dispensing tip by positioning pumps in between them, there is no need for an alternate method using gas pressurization of Peck or Krung to pump fluid to the dispenser tip, as suggested in the Office Action.

The Office Action on pages 6 and 7 did not agree with this argument, stating that "Peck and Krung show alternative methods for moving fluid from a reservoir to a dispensing tip in devices similar to that of Sun, and it is the examiner's position that it would have been obvious to substitute the air pressurized pump of Peck and/or Krug for the syringe pumping of Sun".

Applicants respectfully disagree with this statement. In particular, Applicants assert that an air pressurized pump cannot be substituted for the syringe pump in Sun or the micropump in Sollbohmer because both devices in Sun and Sollbohmer require a vacuum created by the syringe pump or micropump to aspirate fluids before dispensing the fluid. The air pressurized pump of Peck and/or Krug do not disclose a vacuum. A review of Sun discloses a chemical reservoir 26 connected to a syringe 14 via a three way valve 34 with a plunger 40 within a chamber 42. In use, the three way valve 34 is positioned to connect the chemical reservoir 26 with the chamber 42. The plunger 40 is withdrawn in the chamber 42, creating a vacuum *to aspirate fluid* from the chemical reservoir 26 into the chamber 42. The three way valve 34 is then positioned to connect the chemical reservoir 26 with the syringe 14. The plunger 40 is pushed forward and fluid flows from chamber 42 to the syringe 14 for dispensing (Sun, col. 3, lines 12-38, emphasis added). A review of Sollbohmer discloses a storage container 24 with system fluid coupled with micropumps to pipettes 12. During pipetting of sample fluid from a plate 17 in to second plate 18, *a vacuum is applied* to the system fluid such that the pipettes 12 *aspirate sample fluid* from the plate 17 and eject it into plate 18 (Sollbohmer, paragraph [0046], emphasis added).

Accordingly, neither the syringe pump in Sun, nor the micropump in Sollbohmer may be substituted with an air pressurized pump of Peck and/or Krug, as suggested in the Office Action. For at least the reasons discussed above, Applicants respectfully request withdrawal of the rejection of the claims under 35 U.S.C. § 103(a).

C. Claims 1, 3-18, 72-85 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over WO 01/67114 (hereafter WO) in view of Sollbohmer (2002/0051737). Applicants respectfully traverse this rejection.

The Office Action alleges that “WO teaches frame 4, dispensing module including reagent containers 6, 7, pressurized air manifold 8 , and dispensing tips 13, 14 over moveable assay plate on an X-Y stage” but “WO fails to teach the dispensers in a module removably attached to a frame”. The Office Action further alleges that “Sollbohmer teaches a dispensing module including tips 12, pumps 46 and reagent containers 24 on head 10 removably coupled to frame 22 by sliding (quick) connectors 50, 52” and it “would have been obvious to one of ordinary skill in the art to provide the tips, pumps, valves and reagent containers of WO in a dispensing module like that of Sollbohmer”.

To establish a prima facie case of obviousness, there must be some suggestion or motivation combine the teachings of multiple references, and the teaching or suggestion to make the claimed combination must be found in the prior art, not in Applicant’s disclosure

Applicants assert that there is no suggestion or motivation to combine the WO reference with Sollbohmer. WO teaches a method of dispensing a volume of fluid from a reservoir into a series of wells in a continuous uninterrupted flow (Abstract). “The present invention has found that the required quantities of fluid can be obtained in the different wells without interrupting the flow of fluid out of the fluid outlet. An advantage of this preferred embodiment is clearly that *a less complicated dispensing system is required* since the flow of fluid has no longer to be interrupted at a rather high frequency and since no control system is required to synchronise the

interruptions of the fluid flow with the movement over the series of wells" (WO, page 3, lines 23-27, emphasis added). Nowhere in WO does it disclose a need for a removable dispensing module.

As pointed out above, Sollbohmer discloses a storage container 24 with system fluid coupled with micropumps to pipettes 12. During pipetting of sample fluid from a plate 17 in to second plate 18, a vacuum is applied to the system fluid such that the pipettes 12 aspirate sample fluid from the plate 17 and eject it into plate 18 (Sollbohmer, paragraph [0046]). An air pressurized pump cannot be substituted for micropumps.

Applicants assert that it is unlikely that a person skilled in the art would combine WO with Sollbohmer to create a more complicated dispensing system to have a removable dispensing module. In addition, it is unclear if a removable dispensing module would be compatible with dispensing a volume of fluid from a reservoir into a series of wells in a continuous uninterrupted flow.

Accordingly, there is no suggestion or motivation to combine WO with Sollbohmer, as suggested in the Office Action. For at least the reasons discussed above, Applicants respectfully request withdrawal of the rejection of the claims under 35 U.S.C. § 103(a).

In the Application of:

Coassin et al.

Application No.: 10/789,183

Filed: February 26, 2004

Page 12 of 12

PATENT

Attorney Docket No.: BECK/AURO1420-1

II. Conclusion

In view of the above amendments and remarks, reconsideration and favorable action on all claims are respectfully requested. In the event any matters remain to be resolved, the Examiner is requested to contact the undersigned at the telephone number given below so that a prompt disposition of this application can be achieved.

A check in the amount of \$60.00 is enclosed as payment for the one-month Extension of Time fee (small entity). Applicants do not believe any additional fees are due in connection with this Response. However, the Commissioner is hereby authorized to charge any fees that may be associated with this communication, or credit any overpayment to Deposit Account No. 07-1896, referencing the above-identified attorney docket number. A copy of the Transmittal Sheet is enclosed.

Respectfully submitted,

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